

**CALFED Bay-Delta Program Project Information Form
Watershed Program - Full Proposal Cover Sheet**

Attach to the cover of full proposal. All applicants must fill out this Information Form for their proposal. Failure to answer these questions and include them with the application will result in the application being considered nonresponsive and not considered for funding.

1. Full Proposal Title: Yolo Bypass Watershed Planning Project
Concept Proposal Title/Number: Yolo Bypass Watershed Planning Project / 73
Applicant: City of Woodland
Applicant Name: Gary Wegener, Director of Public Works
Applicant Mailing Address: City Hall, 300 First Street, Woodland, CA 95695
Applicant Telephone: 530 661-5978 Applicant Fax: 530 661-5844
Applicant Email: gary.wegener@ci.woodland.ca.us
Fiscal Agent Name (if different from above): same
Fiscal Agent Mailing Address: City Hall, 300 First Street, Woodland, CA 95695
Fiscal Agent Telephone: 530 661-5978 Fiscal Agent Fax: 530 661-5844
Fiscal Agent Email: gary.wegener@ci.woodland.ca.us

2. Type of Project: Indicate the primary topic for which you are applying (check only one)

<input checked="" type="checkbox"/> Assessment	<input type="checkbox"/> Monitoring
<input type="checkbox"/> Capacity Building	<input type="checkbox"/> Outreach
<input type="checkbox"/> Education	<input type="checkbox"/> Planning
<input type="checkbox"/> Implementation	<input type="checkbox"/> Research

3. Type of Applicant:

<input type="checkbox"/> Academic Institution/University	<input type="checkbox"/> Non-Profit
<input type="checkbox"/> Federal Agency	<input type="checkbox"/> Private party
<input type="checkbox"/> Joint Venture	<input type="checkbox"/> State Agency
<input checked="" type="checkbox"/> Local Government	<input type="checkbox"/> Tribe or Tribal Government

4. Location (including County):

What major watershed is the project primarily located in:

☐ Klamath River (Coast and Cascade Ranges)
☒ Sacramento River (Coast, Cascade and Sierra Ranges) [YOLO COUNTY]
☐ San Joaquin River (Coast and Sierra Ranges)
☐ Bay-Delta (Coast and Sierra Ranges)
☐ Southern CA (Coast and Sierra Ranges)
☐ Tulare Basin (Coast, Sierra and Tehachapi Ranges)

5. Amount of funding requested: \$ \$288,081

Cost share/in-kind partners? ☐ Yes ☒ No

Identify partners and amount contributed by each:

6. Have you received funding from CALFED before? ☐ Yes ☒ No

If yes, identify project title and source of funds:

By signing below, the applicant declares the following:

The truthfulness of all representations in their proposal

The individual signing this form is entitled to submit the application on behalf of the applicant (if the applicant is an entity or an organization)

The person submitting the application has read and understood the conflict of interest and confidentiality discussion in the Watershed Program Proposal Solicitation Package and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant, to the extent provided in the Proposal Solicitation Package.

GARY WEGENER, PUBLIC WORKS DIRECTOR

Printed name of applicant

Dan Donnelly FOR GARY WEGENER

Signature of applicant

RESPONSES TO FULL PROPOSAL NARRATIVE QUESTIONS

[CALFED grant application questions are shown in italics.]

- 1. Describe your project, its underlying assumptions, expected outcomes, timetable for completion, and general methodology or process.*
(3 pages)

Project Description

The proposed project involves development of a watershed management plan for the Yolo Bypass. The 59,000-acre Yolo Bypass floodplain (see enclosed map after page 18 of 18) drains directly into the Sacramento/San Joaquin River Delta near Liberty Island. Water quality monitoring has indicated that surface waters in the Bypass do not consistently meet state water quality objectives for some conventional and toxic pollutants. Discharges to the Bypass have been found to include metals, pesticides, other organic chemicals, and general toxicity to sensitive aquatic life. Beneficial uses of concern for the Bypass include the general categories of water-related recreation, crop irrigation, aquatic habitat, and wildlife habitat. A major additional beneficial use of the downstream Delta is municipal drinking water supply for northern and southern California. Delta Waterways are listed on the state's Clean Water Act Section 303(d) list of impaired water bodies.

The objectives of the Yolo Bypass Watershed Planning Project are:

- 1) identify specific Pollutants of Concern (POCs) currently impacting beneficial uses of surface waters in the Bypass and the Bay-Delta
- 2) identify effective, implementable controls for the high priority POCs;
- 3) develop a comprehensive watershed management plan to improve water quality in the Bypass.

The Yolo Bypass Watershed Planning Project directly supports CALFED's Watershed Program goals as well as CALFED's overall objectives:

- ❑ The project is consistent with two of the initial implementation priorities of the Watershed Program, including building local community capacity to assess and effectively manage watersheds that affect the Bay-Delta system, and development of local watershed plans in the CALFED solution area.
- ❑ The project is consistent with a number of CALFED's Watershed Program principles because it is community based; collaborative among agency and private interests at multiple levels;

includes formalized water quality monitoring protocols; and will increase local learning and awareness among Bypass stakeholders of CALFED's goals.

- ❑ The project directly supports two of CALFED's primary objectives: Bay-Delta water quality improvement (through reduction of POC loads from the Yolo Bypass), and Bay-Delta ecosystem quality improvement (through reduction of water quality related stressors on aquatic and other wildlife).

Underlying Assumptions

The project is based on the following key assumptions:

- 1) Discharges of pollutants from anthropogenic activities may be contributing to impairment of the beneficial uses of the Yolo Bypass and the Bay-Delta.
- 2) Such impairments may be attributable in some measure to elevated concentrations of specific Pollutants of Concern (POCs).
- 3) In-stream concentrations of the POCs and discharge loadings from their significant sources can be quantified through a carefully-designed and implemented water quality monitoring program.
- 4) Controls can be identified which can effectively serve to reduce the discharges of specific POCs from specific sources.
- 5) Incorporation of the identified controls within a Watershed Management Plan, with contributions from the various stakeholders within the watershed, can provide an effective basis for cooperative action.
- 6) Implementation of the Plan can result in improved water quality and enhanced achievement of beneficial uses within the Bypass and the Bay-Delta.

The expected outcome of the watershed management planning project is the production of a comprehensive plan for improvement of water quality within the Yolo Bypass. Implementation of this plan will directly benefit Bay-Delta water quality, and will result in improved aquatic ecosystem quality.

The City of Woodland and the City of Davis are sponsoring the watershed planning project. Both entities are stakeholders with an interest in the water quality and beneficial uses in the Yolo Bypass, and both discharge municipal wastewater treatment plant effluent and urban runoff to the Bypass. The City of Woodland will act as the fiscal agent for the CALFED Watershed Program grant funds.

General Methodology

The general steps proposed for the Yolo Bypass Watershed Planning Project are:

- ❑ identify through a surface water quality assessment and monitoring program the current POCs for the Bypass;
- ❑ quantify the POCs and their apparent sources within the Bypass;

- ❑ identify and evaluate alternative controls to reduce POCs from POTWs, urban runoff, and agriculture within the Bypass;
- ❑ for those POCs for which effective controls appear technically or economically infeasible, investigate the applicability of current water quality objectives for these POCs and suggest site specific objectives, if appropriate;
- ❑ provide public education and obtain public input regarding potential methods for improving water quality in the Bypass, as well reducing loads on the Bay-Delta; and
- ❑ produce a Watershed Management Plan report containing a recommended program of implementation to reduce POCs that are degrading beneficial uses of surface waters.

Although no formal, comprehensive assessment of surface water quality in the Yolo Bypass has been conducted to date, certain toxic and conventional pollutants have been detected through monitoring by POTWs, stormwater agencies, and State/Federal agencies. This limited water quality monitoring has indicated that the following constituents should be included on an initial list of potential POCs for the Bypass:

- ❑ OP Pesticides (diazinon and chlorpyrifos)
- ❑ OC Pesticides (aldrin, DDT, dieldrin, chlordane, endrin, heptachlor, heptachlor epoxide, hexachlorocyclohexane including lindane, endosulfan, and toxaphene)
- ❑ Hexachlorobutadiene & Hexachloroethane
- ❑ Bis(2-ethylhexyl)phthalate
- ❑ Tributyltin
- ❑ Cyanide
- ❑ Aluminum
- ❑ Copper
- ❑ Chromium III
- ❑ Beryllium
- ❑ Lead
- ❑ Mercury
- ❑ Coliform bacteria
- ❑ General toxicity to aquatic life

The project will include a local surface water monitoring program for the selected list of potential POCs at up to four stations within the Bypass, including the point of summertime discharge from the Bypass to the Delta. The water quality monitoring program will use clean sample collection techniques, low-detection level analytical methods, and include extensive QA/QC features to ensure data reliability. The water quality monitoring program will be coordinated with upcoming ambient monitoring programs for EPA priority pollutants that will be independently funded over the next two years by the three POTWs discharging to the Bypass - Woodland, Davis, and UCD.

Point and non-point sources for the POCs within the Bypass for the POCs will be estimated based on available historical water quality data, monitoring for POCs by this project, and studies

from the literature correlating land use categories with POC average discharge loads. Results will be entered into a database and displayed using GIS techniques, if shown to be useful.

The project will include an evaluation of treatment options by POTWs for the POCs, as well as BMPs for non-point source generators of the POCs, including urban runoff and agriculture. Stakeholder input will be obtained for POC control alternatives and costs, especially for non-point sources from private land. It is likely that agencies/landowners with potential contributions to water quality problems in the Bypass may not agree with some alternatives for reducing POCs, but it is only through the public process proposed by this project that effective water quality improvements in the Bypass can start to move forward

For POCs that exceed current State/Federal water quality objectives for beneficial uses in the Bypass and that do not appear technically or economically controllable, the project will evaluate the applicability of the objectives and determine if site specific objectives, instead of nationally applied objectives, would be appropriate for further investigation.

The Yolo Bypass Watershed Planning Project will produce a draft and final Watershed Management Plan report containing a recommended program of implementation to reduce POCs generated in the Bypass.

Throughout the project, stakeholder review and input will be sought for project findings and recommendations. Yolo Bypass stakeholders will be contacted for participation in the project representing the following interests:

- ❑ local governments such as the City of Davis, City of Woodland, Yolo County, and Solano County
- ❑ local agricultural interests such as the Yolo County Farm Bureau, private farmers, and Resource Conservation/Reclamation Districts operating in or adjacent to the bypass.
- ❑ local environmental and conservation groups such as Yolo Basin Foundation, Ducks Unlimited, Cache Creek Conservancy, and the DeltaKeeper
- ❑ state agencies such as the Central Valley RWQCB, SWRCB, DHS, DFG, Department of Agriculture, and the Department of Pesticide Regulation

Timetable for Completion

The project is planned to begin, pending execution of a grant contract with DWR, in January 2002 and be completed by July 2004 (2.5 years). The detailed tasks proposed for the Yolo Bypass Watershed Planning Project are listed in the project budget discussion under Question 3.

2. *Describe your qualifications and readiness to implement the proposed project.*
- a) *Describe the level of institutional structure, ability and experience to administer funds and conduct the project. Identify the fiscal agent responsible for handling the funds.*
 - b) *Describe technical support available (including support needed for environmental compliance and permitting) to begin and complete the project in a timely manner.*
 - c) *List any previous projects of this type you or your partners have implemented, funded either by CALFED or other programs.*
- (2 pages)

The City of Woodland will apply for and manage the Yolo Bypass Watershed Planning Project grant. The project will be under the direct charge of the Director of Public Works, Mr. Gary Wegener, P.E. Mr. Wegener has extensive knowledge and experience with water quality issues in the Bypass based on his oversight of the City's wastewater treatment plant and municipal stormwater program.

Mr. Wegener will also be the designated fiscal agent for purposes of administering the State grant funds from DWR. The Public Works Department in coordination with the City Finance Department will establish accounts and initiate bookkeeping procedures to safeguard grant receipts, disburse funds for project costs approved by DWR, and prepare grant payment requests to DWR based on State source documentation requirements. The Public Works Department will also, in accordance with Standard Terms and Conditions for CALFED grants, submit monthly reports to the State grantor agency with: (1) a schedule update showing the percent complete for each main project task (2) a statement of current expenditures, and (3) a forecast of any changes to the approved schedule and budget.

The project will be staffed by City of Woodland Department of Public Works engineers, technicians, and other support staff, with assistance as-needed through subcontracts with private firms for specialty tasks such as meeting facilitation, water quality sampling, water quality laboratory analysis, specialized environmental engineering tasks related to surface water quality management, water quality monitoring data management, and GIS applications. All City staff labor expended for the project will be supported with employee timesheets showing the date, number of labor hours, and project task number worked on.

Upon notification of CALFED's decision to award a Watershed Program grant (would occur in June 2001), the City will develop a staffing and subcontracts plan in order to be ready to proceed with work on the Yolo Bypass Watershed Planning Project by January 2002, the expected earliest date that DWR could execute the grant contract.

The City of Woodland has not received any CALFED funding to date, but has received grants from numerous State and Federal agencies for public works/resources related projects and programs. Two current grants that the City has recently been awarded by DWR under the Prop. 204 program are:

- the "Surface Water Use Feasibility Study" grant
- the "Well Field Feasibility Study" grant

The City receives an independent outside audit of its financial transactions each year.

This is a watershed planning project categorically exempt from CEQA and which will not involve construction activities. There is no need for project support for environmental compliance and permitting.

The City Public Works Department will agree to comply with the Standard Terms and Conditions for CALFED Funding Agreements as stated in Section 8 of the original Proposal Solicitation Package dated 1/19/01.

3. *Provide a completed budget cost sheet and describe the basis for determining project costs, including comparisons with other similar projects, salary comparisons, and other listed costs. Include all costs of environmental compliance, such as CEQA and/or NEPA, and permits. Describe how the approach to achieving the stated goals of the project demonstrates an effective cost relative to its anticipated benefits.*
(2 pages)

The tasks to be accomplished during the Yolo Bypass Watershed Planning Project for which a cost estimate has been developed and an initial schedule presented are:

1. Conduct project/grant administration
2. Develop stakeholder contacts and arrange regular meetings and coordination throughout the project
3. Identify Bypass and Bay-Delta water quality issues of concern, including initial list of pollutants of concern (POCs)
4. Gather and analyze existing information on Bypass land use, literature values for POC loads for various land uses, beneficial uses for surface waters, pollutant levels, and possible sources of POCs within and from outside of the Bypass
5. Develop a final list of POCs for further evaluation
6. Conduct supplementary surface water sampling and laboratory analyses for 4 monitoring stations (for up to 4 sampling events) in the Bypass to characterize current POC levels
7. Evaluate alternative POC controls from the literature for POTWs, urban runoff, and agriculture within the Bypass
8. Investigate feasibility for site specific water quality objectives for POCs in the Bypass where effective local controls appear technically or economically infeasible
9. With stakeholder involvement, develop a program of implementation (technically/economically feasible treatment options and BMPs) to reduce POCs that are degrading beneficial uses of surface waters in the Bypass and the Bay-Delta
10. Prepare progress reports and public presentations regarding the project results, and a draft and final Watershed Management Plan report

The project cost estimate is presented in the four tables listed below enclosed with the Full Proposal. The City plans to select two subcontractors to assist with the project: a professional facilitator to help with stakeholder meetings, and a water quality engineering consultant (will include laboratory costs for field monitoring).

Table 1: Budget and Project Summary for the Yolo Bypass Watershed Planning Project

Table 2: Cost Detail Summary for the Yolo Bypass Watershed Planning Project

Table 3: Cost Detail Summary for the Facilitator Subcontract

Table 4: Cost Detail Summary for the Water Quality Engineering Consultant Subcontract

The following assumptions were made in estimating level of effort and other project cost items (see additional assumptions included in the cost estimate spreadsheets):

1. The administration task (Task 1) includes City Public Works staff hours to prepare the monthly budget/schedule progress reports to the grantor agency required in the Standard Terms and Conditions for CALFED funding.
2. The cost estimate does not include CEQA compliance since it is assumed that this planning-only project is categorically exempt.
3. The City of Woodland Public Works Department salaries are comparable to similar-sized cities in the Central Valley. The City can provide more information on the reasonableness of its labor rates if requested by CALFED staff.
4. The City was unable to identify in the time available a project similar to the Yolo Bypass Watershed Planning Project with which to compare overall costs. However, the cost estimate presented herein is considered to be reasonable for the project scope because:
 - ❑ a detailed task structure was used to estimate the required level of effort,
 - ❑ standard City labor rates were used for tasks that the Public Works Department will perform, and
 - ❑ generally prevailing rates were used for the specialized consultants/laboratories that will be retained to assist with the project.

The proposed costs estimated in the Full Proposal total \$288,081. This is \$88,081 higher than the \$200,000 estimate stated in the 2/23/01 Concept Proposal due to the following factors:

- ❑ The estimate in the Concept Proposal was preliminary, and did not include all work items covered in this Full Proposal.
- ❑ Based on the CALFED selection panel's comments transmitted in the letter to the City of Woodland approving the Concept Proposal that *"The project budget seems low; check for adequacy."*, the City has carefully developed its final cost estimate for the Full Proposal, and believes that it more accurately reflects the level of effort that will be required to successfully complete the Yolo Bypass Watershed Planning Project.

4. *Describe the technical feasibility of the proposed project.*
- a) *Describe any similarity to previously implemented successful projects in this community or elsewhere.*
 - b) *If the project proposes a new approach or new method with a high likelihood of adding new knowledge and or techniques, or with the potential to fill identified gaps in existing knowledge, describe how it will do so, and what monitoring components will provide substantiation of results.*
 - c) *Explain how the finished project will be maintained as necessary, and to what degree it may require continued funding from outside the community.*
- (2 pages)

The proposed project draws on techniques and strategies that are known to be technically feasible and have proven to be successful in other areas. The components of the approach proposed for the Yolo Bypass Watershed Planning Project have all been successfully conducted at one time or another in other watershed planning projects. The proposed project will provide much-needed information on water quality within the Yolo Bypass, and will result in a watershed management plan where such currently does not exist.

The Yolo Bypass Watershed Planning Project includes monitoring and assessment of pollutants of concern (POC) which may contribute to impairment of beneficial uses of local surface waters and which may also impact Bay-Delta water quality. The monitoring will be accomplished using state-of-the-art sampling and analytical techniques, which have been demonstrated to be effective in other watershed-scale monitoring projects in California.

The proposed project will also identify recommended controls to reduce generation of POCs in the Bypass. This step will make use of the vast resources and experience available in the areas of wastewater pollution control, including source controls; urban runoff controls (often referred to as Best Management Practices, or BMPs); and agricultural pollution control practices.

The project will result in a watershed management plan for the Yolo Bypass, to be developed through a stakeholder process that gathers input from all concerned parties. This process has been proven to be effective in other areas of California. A key component of successful watershed projects is extensive stakeholder involvement in the planning process and development of project recommendations such as the two ongoing projects highlighted below:

- The Sacramento River Watershed Program has been conducting water quality monitoring and load assessments for over five years. The monitoring data are now being used to develop, with stakeholder assistance, feasible control measures for certain priority pollutants, such as mercury and OP pesticides, which violate State/Federal water quality standards.
- The Calleguas Creek Watershed Planning Project in Ventura County, which began in 1996, has conducted local water quality monitoring to identify pollutants of concern and evaluate their sources and loads to the watershed. In July 2000, with stakeholder

assistance, the project developed recommendations, now under review by the RWQCB, on technically and economically feasible control measures for nutrients, which are currently violating water quality objectives. The control measures include additional treatment by POTWs in the area as well as BMPs for non-point sources.

Once a Watershed Management Plan is developed for the Yolo Bypass, it is anticipated that the program stakeholders will continue to refine, expand, and update the Plan, as well as implement the recommended water quality improvement practices and projects for the POCs. The process of developing the plan will likely lead to identification of additional information needs, related to specific watershed management issues. Experience in other areas of the state has demonstrated that the existence of a watershed management plan provides a framework and focus for additional information-gathering activity. The plan will also provide a basis for additional, follow-up grant proposals to address the identified information needs, and will provide a rationale for allocation of funds for the implementation of controls.

5. *Describe how the monitoring component of the project will help determine the effectiveness of project implementation and assist the project proponent and CALFED with adaptive management processes.*
- a) Identify performance measures appropriate for the stated goals and objectives of the project.*
 - b) Describe how this project will coordinate with and support other local and regional monitoring efforts.*
 - c) Provide a description of any citizen monitoring programs that will be part of this project.*
 - d) What monitoring protocols will be used, and are they widely accepted as standard protocols?*
 - e) Describe how the type and manner of data collection and analysis will be useful for informing local decision making?*
- (3 pages)*

The planned surface water quality monitoring is an essential component of the Yolo Bypass Watershed Planning Project. This monitoring is necessary to verify whether POCs occur in surface waters in the Bypass at levels above water quality objectives. The project will provide information both on spatial variability within the Bypass, through monitoring at key geographical locations, as well as temporal (seasonal) variability, by monitoring quarterly during the course of one year. The timing and location of the monitoring is also expected to provide some insight into the sources of the POCs.

To keep the project costs within budget constraints, four sampling stations will be established in the Bypass and four separate sampling events will be conducted at each of the stations. One of the sample stations will be on the Bypass toe drain before it enters the Delta. The locations of the other three sampling stations will be selected, upon consultation with CALFED and the stakeholder group, after the availability of historical water quality data is assessed, and the final list of POCs is selected.

To ensure the reliability and usefulness of the POC water quality monitoring data to be collected by the project, detailed Quality Assurance/Quality Control (QA/QC) requirements will be documented in a Quality Assurance Project Plan (QAPP) to be submitted for CALFED approval. The QAPP will specify Data Quality Objectives (DQOs) for the monitoring, covering sample representativeness, accuracy, precision, comparability and completeness.

Analytical data quality is dependent on the ways in which samples are collected, handled, and analyzed. Therefore, to obtain high quality data, this project will employ a comprehensive QA/QC program, covering all aspects of sample collection, transport, and analysis. Sample bottles and sampler tubing will be specially pre-cleaned, and all sample collection and handling will be performed using “clean sampling” techniques. Both external (field-initiated) and internal (analytical laboratory-initiated) QA/QC samples will be used to verify conformance with project

DQOs. External QA/QC samples will include field blanks (and trip blanks as appropriate), equipment/bottle blanks, and field duplicates. Internal QA/QC will include the analysis of method blanks, laboratory duplicates, laboratory control and matrix spikes and spike duplicates. At a minimum, QA/QC samples will be collected at frequencies specified by EPA sampling and analytical methods. The results of these QA/QC analyses will be thoroughly evaluated to assess sample contamination, precision, and accuracy.

The level of QA/QC sample collection and analysis for this project will be similar to that of the Sacramento River Watershed Program. Details of the Sacramento River Watershed Program monitoring can be found in the "Quality Assurance Project Plan for Monitoring" prepared by the Sacramento River Watershed Program, November 2000.

The planned monitoring will complement other ongoing monitoring activities currently being conducted by local, state and federal agencies. To avoid duplication, the project water quality monitoring will be coordinated with other monitoring that is expected to be conducted in the Bypass area during the project term including:

- Stormwater quality monitoring conducted by local or state agencies
- USGS ambient water quality monitoring in the Bypass area
- POTW (UCD, Davis, Woodland) effluent and ambient monitoring programs, including the upcoming special monitoring studies for receiving waters which will address EPA priority pollutants (required by the March 2000 SWRCB State Implementation Plan for the California Toxics Rule).
- Sacramento River Watershed Program monitoring
- Any local monitoring performed under the statewide Surface Water Ambient Monitoring Program (SWAMP)

The water quality data for POCs collected during the project will be stored in a relational database for transfer into any CALFED/regional master water quality database system developed during the project term.

Due to the limited time frame and the specialized sampling procedures for the water quality monitoring component of this project, no citizen monitoring is currently planned. However, local citizen monitoring data that are produced with documentable quality control during the course of this project will be included in the data evaluation and analysis.

Detailed monitoring methods will be specified in the QAPP and in a project Sampling and Analysis Plan. Because of the (ultra-)trace pollutant concentrations to be analyzed, the monitoring protocols will be more state-of-the-art than standard. The methods will include clean sampling techniques to minimize sample contamination, low detection level laboratory analysis, and a complete QA/QC program to ensure and document data quality. Cross-sectional (depth-integrated at selected points across a transect) composite samples will be collected at each ambient monitoring site, when feasible, to fully characterize water quality at each site.

The results of the monitoring program will be essential in evaluating ambient levels of the POCs, their sources, and the nature and locations of appropriate controls. The water quality data information provided in reports and presentations produced during the Yolo Bypass Watershed Planning Project will be explained in terms understandable to both agency and private stakeholders. User-friendly tables and, where appropriate, GIS mapping techniques will be utilized to provide graphic displays of the data to help local decision-makers understand the prevalence and possible sources for POCs in the Bypass. The recommended control measures are expected to be useful to local agencies when making future land use decisions, performing wastewater treatment master planning, and planning watershed restoration efforts.

6. *If this project is to develop specific watershed conservation, maintenance or restoration actions, describe the scientific basis for the action(s) described in the proposal. Include the following:*
- a) Any assessment of watershed condition(s) that has already been developed by you or others.*
 - b) Previous assessment(s) used to establish your project goals and objectives, or to inform the basic assumptions of your proposal.*
 - c) A description of the scientific assumptions used to develop the project goals, objectives and proposed actions, and the degree to which those assumptions are widely accepted (both in the science community as a whole, and in the watershed community).*
 - d) A discussion of how the proposed actions are (are not) consistent with the scientific assumptions and previous assessments completed in the watershed.*
 - e) A description of what baseline knowledge was used to support the management actions described in the proposal, or the likelihood that the management actions will generate more robust baseline knowledge.*
- (2 pages)*

Past surface water quality monitoring in the Yolo Bypass has been limited primarily to receiving waters in the vicinity of the City of Davis wastewater treatment plant (which discharges to the Willow Slough Bypass), and the City of Woodland wastewater treatment plant (which discharges to the Tule Canal). These monitoring data are submitted to the RWQCB but, to date, have not been used by local groups or agencies to develop a comprehensive picture of surface water quality conditions in the Bypass. These monitoring data appear to show that Yolo Bypass water bodies do not consistently meet water quality objectives for designated beneficial uses.

The surface water quality objectives applicable to the Yolo Bypass are contained in the 1994 RWQCB Basin Plan, the USEPA's 1992 National Toxics Rule, and the USEPA's 2000 California Toxics Rule. The Basin Plan lists the following beneficial uses for the Yolo Bypass to which aquatic life or human health-based water quality criteria apply:

- Agriculture – irrigation
- Agriculture – stock watering
- Recreation – contact (REC-1)
- Recreation – other non-contact (REC-2)
- Freshwater habitat – warm
- Freshwater habitat –cold
- Spawning – warm
- Wildlife habitat

The proposed Yolo Bypass Watershed Planning Project will be the first organized attempt to fully document water quality impairments in the Yolo Bypass, and to have local stakeholders explore corrective actions from a Bypass-wide perspective. The proposed planning project is

consistent with the current overall knowledge of water quality in the Bypass because the project builds on the limited data available by using new and very precise water quality monitoring to fill in gaps in knowledge regarding POCs. The project will produce more robust baseline knowledge of Bypass surface water quality than now exists, and will provide a platform for collection of future water quality data as well as reduction in locally-generated POC loads.

The watershed plan produced by this project will document the impacts of water pollution not only on local stakeholders, but also determine loads on the Bay Delta system. CALFED's financial support of this watershed planning process can be expected to generate a more cooperative acknowledgement by local stakeholders of downstream impacts of Bypass water pollution, and facilitate corrective action project recommendations intended to achieve local as well as CALFED's water quality goals.

During the planning process, the project team will interact with CALFED technical staff regarding Delta water quality standards and beneficial uses. All water quality monitoring data collected during this project will be provided to CALFED for its long range planning purposes.

7. A. *How will the proposal address multiple CALFED objectives (see Section I) in an integrated fashion, with emphasis on water supply reliability, water quality, ecosystem quality, and levee stability objectives CALFED has established for Stage 1 of the program?*

As discussed below, the Yolo Bypass Watershed Planning Project directly supports two of CALFED's four primary objectives: Water Quality and Ecosystem Quality

▪ **Bay-Delta Water Quality**

The proposed project will improve Bay-Delta water quality by recommending local controls to reduce POC loads from the Bypass. The 303(d) pollutants identified by the USEPA (May 1999) as impairing beneficial uses of Bay-Delta waters will be included among the POCs for this project, and included in the list of constituents for which local load reductions are sought. These toxic constituents are:

- OP Pesticides (diazinon and chlorpyrifos)
- OC Pesticides (aldrin, DDT, dieldrin, chlordane, endrin, heptachlor, heptachlor epoxide, hexachlorocyclohexane including lindane, endosulfan, and toxaphene)
- Mercury
- Coliform bacteria
- General toxicity to aquatic life

Any reductions in locally generated POCs from the Yolo Bypass is a direct reduction in POC loading on the Bay-Delta from this tributary area, and will result in an improvement in Bay-Delta water quality.

▪ **Bay-Delta Ecosystem Quality**

The proposed project will reduce stressors on aquatic life in the Bay-Delta by reducing the loads of POCs that are toxic to aquatic life. With the exception of coliform, aluminum, and beryllium, all of the constituents on the initial list of POCs (see list under Question 1 above) to be investigated in the Bypass during this project are toxic to aquatic life in trace amounts. By reducing these stressors to aquatic life, a vital part of the natural food chain in the Bay-Delta, the project will contribute directly to recovery of ecosystem health for a wide range of species.

- B. *Explain how the proposal will help define and illustrate relationships between watershed processes (including human elements), watershed management, and the primary goals and objectives of the CALFED (see Section I).*

Watershed management functions can include a wide range of activities including short and long-term water quality monitoring, development of local and regional water quality

management options, stakeholder collaboration, land use decisions, restoration projects, and public outreach. The Yolo Bypass Watershed Planning Project will be the first effort to apply a range of watershed stewardship actions to this important tributary of the Bay-Delta including: local water quality monitoring and assessment, characterization of loads for the POCs selected by stakeholders through a collaborative process, public outreach, and identification of local controls to reduce POCs.

The project will directly support two of CALFED's objectives, Bay-Delta water and ecosystem quality, through a locally-based program working in partnership with CALFED. The project will provide an opportunity for collaboration of local stakeholders from different backgrounds and levels, as well as integration with existing and future watershed programs and initiatives in the region.

C. Identify a lead agency for environmental compliance, such as CEQA or NEPA. Describe the program's strategy and timetable on environmental compliance.

DWR will be the designated lead agency for CEQA purposes for the Yolo Bypass Watershed Planning Project.

This planning project qualifies for a categorical exemption from CEQA [Class 6 Categorical Exemption (Information Collection Project) per CEQA Guidelines (California Code of Regulations Title 14, Chapter 3, Article 19, Section 15306)]

The City of Woodland will confirm the CEQA categorical exemption with DWR prior to execution of the grant contract.

8. *Describe any other important aspects of your program that you could not address in the above items, and that you feel are critical to fully describing your project.*
(2 pages)

The sources for POCs generated in the Bypass are likely to include both private and municipal point and non-point discharges. It is anticipated that public agencies, environmental groups, conservation groups, and private landowners will want to participate in developing a plan to address documented water quality problems. The project team will publicize the results of the water quality monitoring, and obtain regular feedback from stakeholders regarding POC sources and alternative corrective actions. The existing Yolo Bypass Working Group established by the Yolo Basin Foundation for its first CALFED Ecosystem Restoration grant appears to be an ideal forum for stakeholder involvement in the Yolo Bypass Watershed Planning Project. The initial outreach efforts for this project will be directed at this existing stakeholders group.

Davis and Woodland, both of which discharge stormwater and treated wastewater to the Yolo Bypass, consider a Bypass-wide planning study to be the most efficient way to characterize and start to resolve existing water quality issues. These two cities are taking the initiative to obtain CALFED Watershed Program funding for development of a Watershed Plan for the Bypass.

Development of an implementable Watershed Plan for improving water quality in the Yolo Bypass will ultimately benefit all portions of the community which use the Bypass including agriculture, local residents, local agencies, state/federal agencies, and environmental/conservation groups. It is expected that agencies/landowners shown to be contributing to water quality problems in the Bypass may not agree to some of the initially proposed alternatives for corrective action, but it is only through the public process proposed by this project of obtaining reliable water quality data and facilitating stakeholder discussions of solutions, that water quality improvements in the Bypass can start to move forward.

TABLE 1: BUDGET AND PROJECT SUMMARY FOR THE YOLO BYPASS WATERSHED PLANNING PROJECT				
TASK DESCRIPTION	COMPLETION DATE, month number	MATCH FUNDS	CALFED FUNDS	TOTAL FUNDS REQUIRED
TASK 1. Conduct project/grant administration	30 [A]		\$ 49,560	\$ 49,560
<u>DESCRIPTION:</u> The City of Woodland (City) will provide planning project administration (scheduling, file maintenance, subcontract management); financial administration (accounting, funds receipt/disbursement, internal controls). The City will also provide CALFED grant administration including negotiating the contract with DWR; preparing well-supported grant payment requests based on costs incurred; and submitting the financial/schedule status reports to DWR as required in the Standard Terms and Conditions. The cost estimate also reflects 4 hours per month for project administration/management work by the engineering subcontractor (see Table 4).				
<u>TASK PRODUCT:</u> Central correspondence/financial files for the project, internal financial reports, financial/schedule status reports and grant payment requests to DWR.				
<u>SUCCESS CRITERIA:</u> Successful implementation of this task will result in the watershed study progressing on schedule and staying within the DWR-approved budget.				
TASK 2. Develop stakeholder contacts and arrange regular meetings and coordination throughout the project	30 [B]		\$ 36,620	\$ 36,620
<u>DESCRIPTION:</u> The project team (City staff and subcontractors) will develop contacts with, and hold quarterly meetings of, Yolo Bypass stakeholders interested in water quality issues and possible solutions. A professional facilitator will be retained by the City to assist with stakeholder meetings and outreach. The existing Yolo Bypass Working Group established by the Yolo Basin Foundation for another CALFED grant will be the initial point of contact with potential private and agency stakeholders.				
<u>TASK PRODUCT:</u> Dissemination of information regarding Bypass water quality/potential control measures to stakeholders, and input/review by stakeholders regarding project findings and the feasibility of potential control measures.				
<u>SUCCESS CRITERIA:</u> The project team will know that this task is being successful when stakeholders show an interest in local water quality by attending project meetings or corresponding with the project team, and are vocal (positively and negatively) regarding study findings and potential control measures.				

TASK DESCRIPTION	COMPLETION DATE, month number	MATCH FUNDS	CALFED FUNDS	TOTAL FUNDS REQUIRED
TASK 3. Identify Bypass and Bay-Delta water quality issues of concern, including initial list of pollutants of concern (POCs)	4		\$ 9,840	\$ 9,840
<u>DESCRIPTION:</u> The project team will research and summarize current, and possible future, issues regarding Bypass water quality and beneficial uses locally and in the Bay-Delta. An initial list of POCs will be based on current discharge permit issues, reliable water quality monitoring data from the Bypass from previous studies, and State/Federal assessments [including the 303(d) list] of local and Bay-Delta conditions.				
<u>TASK PRODUCT:</u> A discussion paper summarizing the water quality issues and POCs will be prepared to present to stakeholders for their input.				
<u>SUCCESS CRITERIA:</u> The project team will consider this task a success if the water quality issues can be summarized in a brief plain-language document suitable for stakeholder input.				
TASK 4. Gather and analyze existing information on Bypass land use, literature values for POC loads for various land uses, beneficial uses for surface waters, pollutant levels, and possible sources of POCs within and from outside of the Bypass	7		\$ 27,016	\$ 27,016
<u>DESCRIPTION:</u> The project team will review available documentation regarding Bypass water quality, Bypass land use, Bypass hydrology, beneficial uses of surface waters in the Bypass, literature values for POCs loading range from urban and rural areas, and potential sources for locally generated POCs. This is a key research step that will provide data to later tasks in the study.				
<u>TASK PRODUCT:</u> Potentially useful information from this task will be summarized and reported to stakeholders for their questions and suggestions in the form of a brief progress report.				
<u>SUCCESS CRITERIA:</u> Aspects of this task which will materially benefit the remainder of the study include finding reliable historical POC water quality data for the Bypass (will require investigation of multiple possible sources for data), and locating technical literature addressing the possible sources and loads for the POCs correlated to land use or other local variables.				
TASK 5. Develop a final list of POCs for further evaluation	9		\$ 9,036	\$ 9,036
<u>DESCRIPTION:</u> Based on stakeholder input, and data from Task 4 (especially local POC monitoring data), the list of POCs will be finalized. The remainder of the study will focus on these constituents only.				
<u>TASK PRODUCT:</u> final POC list with brief justification for each constituent				
<u>SUCCESS CRITERIA:</u> This task will be considered a success if the POC list satisfies the interests of the stakeholders while addressing documented water quality issues - but without being so lengthy as to exceed the water quality monitoring budget [under Task 6] for this project. [E]				

TASK DESCRIPTION	COMPLETION DATE, month number	MATCH FUNDS	CALFED FUNDS	TOTAL FUNDS REQUIRED
TASK 6. Conduct supplementary surface water sampling and laboratory analyses for 4 monitoring stations (for up to 4 sampling events) in the Bypass to characterize current POC levels	22 [C]		\$ 93,341	\$ 93,341
<u>DESCRIPTION:</u> Water quality sampling at 4 surface water stations in the Bypass will be conducted for 4 quarters starting in Month #11. The details for this program, a low-detection limit approach with extensive QA/QC measures, are explained in the City's response to Question #5 and in Table 4 cost estimate notes.				
<u>TASK PRODUCT:</u> QAPP, local water quality data for the POCs, and statistical analyses of the results confirming the potential for violation of water quality objectives in the Bypass for each POC.				
<u>SUCCESS CRITERIA:</u> Approval of the QAPP by CALFED prior to start of monitoring, low detection limit POC monitoring results.				
TASK 7. Evaluate alternative POC controls from the literature for POTWs, urban runoff, and agriculture within the Bypass	22		\$ 12,248	\$ 12,248
<u>DESCRIPTION:</u> Gather data from engineering literature on structural and non-structural methods to reduce loads [from both point and non-point sources] to the environment of the POCs identified by the study, including technical feasibility, reliability, and capital/O&M costs.				
<u>TASK PRODUCT:</u> A technical memo will be prepared summarizing available control measures including an assessment of their apparent technical and economic feasibility for application to the Yolo Bypass. A special meeting of the stakeholders will be called to review potentially feasible POC control options in order to obtain their opinions and concerns.				
<u>SUCCESS CRITERIA:</u> This task will be considered successful if a range of POC control measures can be found in order to give a variety of options for the stakeholders to review and comment on.				
TASK 8. Investigate feasibility for site specific water quality objectives for POCs in the Bypass where effective local controls appear technically or economically infeasible	23		\$ 9,252	\$ 9,252
<u>DESCRIPTION:</u> For those POCs, if any, where no control measures appear to be technically or economically feasible, develop summaries of the origin of the national (NTR/CTR) water quality objective which this study shows to be exceeded (or threatened to be exceeded) to determine if local environmental conditions in the Bypass could support modification of the objective (using standard EPA/SWRCB procedures) while still protecting actual beneficial uses.				
<u>TASK PRODUCT:</u> Analysis of NTR/CTR criteria, as necessary [and within budget constraints].				
<u>SUCCESS CRITERIA:</u> This task will be successful if enough information on the water quality objectives at issue can be developed to come to a conclusion if a site-specific objective(s) should be investigated further with the RWQCB.				

TASK DESCRIPTION	COMPLETION DATE, month number	MATCH FUNDS	CALFED FUNDS	TOTAL FUNDS REQUIRED
TASK 9. With stakeholder involvement, develop a program of implementation (technically/economically feasible treatment options and BMPs) to reduce POCs that are degrading beneficial uses of surface waters in the Bypass and the Bay-Delta	29		\$ 16,488	\$ 16,488
<u>DESCRIPTION:</u> This task will utilize all previous information developed in the study to develop recommendations, with stakeholder input a major element, for feasible control measures for POCs generated in the Bypass which are creating water quality problems in the Bypass as well as the Bay-Delta. These control measures could range from specific upgraded treatment for POTW point sources to BMPs for urban and non-urban point and non-point sources.				
<u>TASK PRODUCT:</u> A list of recommended control measures that address all POCs.				
<u>SUCCESS CRITERIA:</u> This is the most important task in the study which will be considered successful if a wide range of POC control measures that appear to be feasible for application in the Bypass can be produced, and the stakeholders generally accept the list.				
TASK 10. Prepare progress reports and public presentations regarding the project results, and a draft and final Watershed Management Plan report	30 [D]		\$ 24,680	\$ 24,680
<u>DESCRIPTION:</u> Task 10 consolidates certain types of reporting activities that will be conducted throughout the project including [F]: oral/written presentations at the stakeholder meetings, the draft and final study report, and delivering a final summary presentation of the project results to CALFED staff.				
<u>TASK PRODUCT:</u> Up to 10 oral/written presentations to the stakeholders, and a draft (Month #26) and final (Month #30) study report.				
<u>SUCCESS CRITERIA:</u> This task will be successful if stakeholders are kept fully updated on project results at each meeting, and the draft and final reports are issued on schedule.				
	TOTAL COST >>		\$ 288,081	\$ 288,081
NOTES:				
A Task 1 project/grant administration work will occur throughout the project. The estimated project duration is 2.5 years (30 months) starting in January 2002 (Month #1) after execution of the grant contract with DWR.				
B Stakeholder meetings will be held quarterly on average throughout the project.				
C The first of 4 water quality sampling events in the Yolo Bypass is targeted for Month 11 (November 2002) with the last three events to be held in Months 14, 17, and 20. Analysis of the data from all 4 events is targeted to be completed in Month 22 (October 2003).				
D Progress reports will be made at all stakeholders meetings and to DWR in the contractual format required. The draft of the Study Report is targeted for Month 26 and the final Study Report, after stakeholder approval, for Month 30.				
E The project cost estimate contains a 25% contingency factor applied to the currently estimated monitoring costs (based on the initial POC list in the grant application - see City's response to Question #1) to cover minor additions to the POC list. See Footnote D to Table 4.				
F The City's proposed task structure places the periodic financial/schedule status reports to CALFED/DWR under Task 1 - Project/Grant Administration. The Standard Terms and Conditions included with the CALFED grant application package call for monthly reports, which is what the City's cost estimate for Task 1 is based on.				

TABLE 2: COST DETAIL SUMMARY FOR THE YOLO BYPASS WATERSHED PLANNING PROJECT

Task Description	Labor Costs M				Supplies		Travel		Materials		Subcontract #1		Subcontract #2		MATCH	CALFED	TOTAL COSTS
	Rate, \$	Hours	Total, \$	Notes	Cost, \$	Notes	Cost, \$	Notes	Cost, \$	Notes	Cost, \$	Notes	Cost, \$	Notes			
					K		L		K		A		B				
1. Conduct Project/Grant Administration	108	120	12960	D, H													
	85	120	10200	E, I													
	57	240	13680	F, G													
Total			36840										12720			49560	49560
2. Develop Stakeholder Contacts, Meetings, Coordination	108	30	3240	D, J													
	85			E													
Total			3240		15,000	C					9900		8480			36620	36620
3. Identify Water Quality Issues and Pollutants of Concern	108			D													
	85	16	1360	E													
Total			1360										8480			9840	9840
4. Gather/Analyze Data/Literature on Land Use, POC Loads by Land Use, Beneficial Uses, Historical POC data, Possible Sources of POC Within/Incoming To Bypass	108	2	216	D													
	85	16	1360	E													
Total			1576										25440			27016	27016
5. Develop/Justify Final List of POCs for the Study	108	2	216	D													
	85	4	340	E													
Total			556										8480			9036	9036

Task Description	Labor Costs M				Supplies		Travel		Materials		Subcontract #1		Subcontract #2		MATCH	CALFED	TOTAL COSTS
	Rate, \$	Hours	Total, \$	Notes	Cost, \$	Notes	Cost, \$	Notes	Cost, \$	Notes	Cost, \$	Notes	Cost, \$	Notes			
6. Organize and Conduct Surface Water Quality Monitoring Program in the Bypass for the POCs	108	4	432 D														
	85	16	1360 E														
Total			1792										91549			93341	93341
7. Evaluate Alternative POC Control Measures for the Bypass Conditions for POTWs, Urban Runoff, and Agricultural Land Uses	108	16	1728 D														
	85	24	2040 E														
Total			3768										8480			12248	12248
8. Investigate Feasibility of Site Specific Water Quality Objectives, where appropriate	108	4	432 D														
	85	4	340 E														
Total			772										8480			9252	9252
9. Develop a Program to Implement Control Measures for POCs from the Bypass With Stakeholder Assistance	108	16	1728 D														
	85	24	2040 E														
Total			3768										12720			16488	16488

Task Description	Labor Costs M				Supplies		Travel		Materials		Subcontract #1		Subcontract #2		MATCH	CALFED	TOTAL COSTS
	Rate, \$	Hours	Total, \$	Notes	Cost, \$	Notes	Cost, \$	Notes	Cost, \$	Notes	Cost, \$	Notes	Cost, \$	Notes			
10. Prepare Progress Reports and Presentations, and the Draft and Final Watershed Management Plan Report	108	40	4320	D													
	85	40	3400	E													
Total			7720										16960			24680	24680
TOTALS >>>>>>>>			61,392		15,000						9,900		201,789			288,081	\$ 288,081

NOTES:

- A Subcontract #1 is for a professional facilitator to be selected by the City to assist with stakeholder meetings for the 30 month watershed project. See Table 3 for cost details. City does not have this in-house expertise at this time.
- B Subcontract #2 is for a consulting engineering firm specializing in water quality that will be selected by the City to conduct tasks related to POCs selection/loads, beneficial uses, water quality data analysis, water quality sampling using low detection limit protocols, POC control measures feasibility, GIS water quality applications, feasibility of site specific objectives, and watershed management. See Table 4 and Attachment 1 to Table 4 for cost details. All laboratory analytical costs will be included in this subcontract. City does not have these types of in-house expertise available at this time.
- C Cost for sharing stakeholder meeting expenses with the Yolo Basin Foundation for Work Group meetings @ \$1,500 per meeting (one-half of \$3,000) for 10 meetings max. (quarterly for 30 months) including meeting room, meeting meals/snacks, publicity, notices, and minutes preparation/distribution.
- D City billing rate for Director of Public Works. Based on hourly rate of \$44.07, with benefits \$57.29, with City distributed indirect costs/overhead \$108
- E City billing rate for Senior Civil Engineer in Public Works Department. Based on hourly rate of \$34.86, with benefits \$43.72, with City distributed indirect costs/overhead \$85
- F City billing rate for Management Analyst for handling grant administration and accounting tasks. Based on hourly rate of \$23.13, with benefits \$30.07, with City distributed indirect costs/overhead \$57
- G Assumes an average of 8 hours per month for 30 months for grant project record keeping, accounting, and coordination with DWR, City staff, and subcontractors regarding project-related administrative and financial matters.
- H Assumes an average of 4 hours per month for project coordination and management of subcontractors and City staff working on the project.
- I Assumes an average of 4 hours per month for project administration and subcontractor management.
- J Based on attendance at 10 stakeholders meeting (quarterly for 30 months) at 1 hour prep time and 2 hours meeting time.
- K Costs for misc. supplies and materials are included in City overhead.
- L Travel will be minimal. Costs for City vehicles covered by City overhead.
- M Approximately 5% of the time of each of the three City employee positions noted below will be allocated to this project over its 2.5 year duration.
- N Project cost estimate will be segregated by year pending instructions from the grantor agency as to whether the year is based on calendar year, State fiscal year, or running-project year.

TABLE 3: COST DETAIL SUMMARY FOR FACILITATOR SUBCONTRACT													
Task Description	Labor Costs				Supplies		Travel		Materials		MATCH	CALFED	TOTAL COSTS
	Rate, \$	Hours	Total, \$	Notes	Cost, \$	Notes	Cost, \$	Notes	Cost, \$	Notes			
1. Conduct Project/Grant Administration													
2. Develop Stakeholder Contacts, Meetings, Coordination	110	90	9,900	A, B								9,900	9,900
3. Identify Water Quality Issues and Pollutants of Concern													
4. Gather/Analyze Data/Literature on Land Use, POC Loads by Land Use, Beneficial Uses, Historical POC data, Possible Sources of POC Within/Incoming To Bypass													
5. Develop/Justify Final List of POCs for the Study													
6. Organize and Conduct Surface Water Quality Monitoring Program in the Bypass for the POCs													

Task Description	Labor Costs				Supplies		Travel		Materials		MATCH	CALFED	TOTAL COSTS
	Rate, \$	Hours	Total, \$	Notes	Cost, \$	Notes	Cost, \$	Notes	Cost, \$	Notes			
7. Evaluate Alternative POC Control Measures for the Bypass Conditions for POTWs, Urban Runoff, and Agricultural Land Uses													
8. Investigate Feasibility of Site Specific Water Quality Objectives, where appropriate													
9. Develop a Program to Implement Control Measures for POCs from the Bypass With Stakeholder Assistance													
10. Prepare Progress Reports and Presentations, and the Draft and Final Watershed Management Plan Report													
TOTALS >>>>>>>			9,900									9,900	\$ 9,900
NOTES:													
A Assumes an <u>average</u> of 1 local stakeholders meeting per quarter for the 30 month estimated project duration [10 meetings total]													
B Facilitator labor estimate per stakeholder meeting is based on a 2 hour meeting time, 2 hours of prep time, and 5 hours of follow-up and documentation work - for a total of 9 hours per stakeholder meeting.													

TABLE 4: COST DETAIL SUMMARY FOR THE WATER QUALITY ENGINEERING CONSULTANT SUBCONTRACT

Task Description	Labor Costs [A]				Supplies		Travel		Materials		MATCH	CALFED	TOTAL COSTS
	Rate, \$	Hours	Total, \$	Notes	Cost, \$	Notes	Cost, \$	Notes	Cost, \$	Notes			
1. Conduct Project/Grant Administration	106	120	12,720	B								12,720	12,720
2. Develop Stakeholder Contacts, Meetings, Coordination	106	80	8,480	C								8,480	8,480
3. Identify Water Quality Issues and Pollutants of Concern	106	80	8,480									8,480	8,480
4. Gather/Analyze Data/Literature on Land Use, POC Loads by Land Use, Beneficial Uses, Historical POC data, Possible Sources of POC Within/Incoming To Bypass	106	240	25,440									25,440	25,440
5. Develop/Justify Final List of POCs for the Study	106	80	8,480									8,480	8,480
6. Organize and Conduct Surface Water Quality Monitoring Program in the Bypass for the POCs	106	288	30,528	E	61,021	D						91,549	91,549
7. Evaluate Alternative POC Control Measures for the Bypass Conditions for POTWs, Urban Runoff, and Agricultural Land Uses	106	80	8,480									8,480	8,480

Task Description	Labor Costs [A]				Supplies		Travel		Materials		MATCH	CALFED	TOTAL COSTS
	Rate, \$	Hours	Total, \$	Notes	Cost, \$	Notes	Cost, \$	Notes	Cost, \$	Notes			
8. Investigate Feasibility of Site Specific Water Quality Objectives, where appropriate	106	80	8,480									8,480	8,480
9. Develop a Program to Implement Control Measures for POCs from the Bypass With Stakeholder Assistance	106	120	12,720									12,720	12,720
10. Prepare Progress Reports and Presentations, and the Draft and Final Watershed Management Plan Report	106	160	16,960									16,960	16,960
TOTALS >>>>>>>>			140,768		61,021							201,789	\$ 201,789
NOTES:													
A Engineering consulting firm composite labor rate was used for cost estimate. Based on an estimated average staff level engineer/scientist billing rate of \$90/hr; average senior & higher level engineer/scientist billing rate of \$170/hr; and 80% of total labor hours are staff level. Based on these assumptions, the composite billing rate for this subcontract is estimated at \$106/hr.													
B Assumes 4 hours per month for the 30 month project duration.													
C Assumes quarterly stakeholder meetings for 2.5 years @ 8 hr. per meeting including prep time, meeting time, followup													
D These are the non-labor costs for the monitoring program for 4 stations and 4 events as follows: truck rental @ \$100/day for 2 days per event; sampling equipment cleaning for low-detect protocols @ \$500 per event; misc. expendable equipment per event @ \$100 for bottles, gloves, labels, ice, etc.; laboratory analytical costs using low-dection limit methods where appropriate @ \$46,257 [see Attachment 1 to Table 4 for breakdown by POC] for 4 stations/4 events plus a 25% contingency factor to cover additional POCs that are expected to be added to the list by stakeholders. Total analytical cost figure is \$57,821 [125% of \$46,257]													
E Includes 64 hours to select sites and organize the details of the approximately 1-year long sampling program in the Bypass. The additional 224 hours are based on 56 hours per each of the 4 events as follows: 1 person-day for event prep, 4 person days [2-person field crew] for cross-sectional field sampling, 1 person day for event followup, and 1 person day for data review, entry, and analysis.													